REQUESTED

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An ignition apparatus having a spark plug comprising: a mounting bracket capable of being mounted to an internal combustion engine; a center electrode insulatedly-supported by the mounting bracket, one end of which being a cylindrical form and exposedly extending from one end of the mounting bracket; and an earth electrode having one end coupled with the one end of the mounting bracket and the other end on which one surface is formed to face to the one end of the center electrode, the one surface having a cylindrical protrusion being secured thereon and extending toward the center electrode so as to face the one end of the center electrode, a spacing formed between the one end of the center electrode and the protrusion of the earth electrode serving as a discharge gap, both of the one end of the center electrode and the protrusion of the earth electrode being 2.3 mm or less in diameter, and an amount of ignition energy required by the spark plug being less than 17 mJ.

2. (Currently amended) An ignition apparatus having a spark plug comprising:

a mounting bracket capable of being mounted to an internal combustion engine;

a center electrode insulatedly-supported by the mounting bracket, one end of which being a cylindrical form and exposedly extending from one end of the mounting bracket; and

an earth electrode having one end coupled with the one end of the mounting bracket and the other end on which one surface is formed to face to the one end of the center electrode, the one surface having a cylindrical protrusion being secured thereon and extending toward the center electrode so as to face the one end of the center electrode, a spacing formed between the one end of the center electrode and the

protrusion of the earth electrode serving as a discharge gap, both of the one end of the center electrode and the protrusion of the earth electrode being 2.3 mm or less in diameter, and a density of ignition energy required by the spark plug being less than 32 W.

8. (Currently amended) An ignition apparatus comprising:

the spark plug a mounting bracket capable of being mounted to an internal combustion engine; a center electrode insulatedly-supported by the mounting bracket, one end of which being a cylindrical form and exposedly extending from one end of the mounting bracket; and an earth electrode having one end coupled with the one end of the mounting bracket and the other end on which one surface is formed to face to the one end of the center electrode, the one surface having a cylindrical protrusion being secured thereon and extending toward the center electrode so as to face the one end of the center electrode, a spacing formed between the one end of the center electrode and the protrusion of the earth electrode serving as a discharge gap, both of the one end of the center electrode and the protrusion of the earth electrode being 2.3 mm or less in diameter, and the discharge gap being 0.7 mm or less in length; and

an ignition power supply for applying voltage to the center electrode and the earth electrode.

9. (Currently amended) An ignition apparatus comprising:

the ignition plug comprising a mounting bracket capable of being mounted to an internal combustion engine; a center electrode insulatedly-supported by the mounting bracket, one end of which being a cylindrical form and exposedly extending from one end of the mounting bracket; and an earth electrode having one end coupled with the one end of the mounting bracket and the other end on which one surface is formed to face to the one end of the center electrode, the one surface having a cylindrical protrusion being secured thereon and extending toward the center electrode so as to face the one end of the center electrode, a spacing formed between the one end of the

center electrode and the protrusion of the earth electrode serving as a discharge gap, both of the one end of the center electrode and the protrusion of the earth electrode being 2.3 mm or less in diameter, and the discharge gap being 0.7 mm or less in length; and

an ignition power supply having an ignition coil for applying voltage to the center electrode and the earth electrode, the ignition coil being 22 mm or less in coil diameter.

10. (Currently amended) An ignition apparatus comprising:

a spark plug having

a mounting bracket capable of being mounted to an internal combustion engine,

a center electrode insulatedly-supported by the mounting bracket, one end of which being a cylindrical form and exposedly extending from one end of the mounting bracket, and

an earth electrode having one end coupled with the one end of the mounting bracket and the other end on which one surface is formed to face to the one end of the center electrode, the one surface having a cylindrical protrusion being secured thereon and extending toward the center electrode so as to face the one end of the center electrode, a spacing formed between the one end of the center electrode and the protrusion of the earth electrode serving as a discharge gap, both of the one end of the center electrode and the protrusion of the earth electrode being 2.3 mm or less in diameter, and the protrusion being made of one selected from a group consisting of a platinum-based alloy and an iridium-based alloy; and

an ignition power supply for applying voltage to the center electrode and the earth electrode, a positive voltage being applied to the center electrode by the ignition power supply when a discharge starts.